

REMARKS

In response to the above-identified Office Action, Applicant amends the application and seeks reconsideration thereof. In this response, Applicant amends claims 1, 2, 4, 5, 9, and 10 and adds new claim 11. Accordingly, claims 1-11 are pending.

I. Claim Objections

Applicant has amended claim 2 to correct the informalities identified by the Examiner.

In regard to claims 5-10, the Examiner objects to these claims because they depend from a multiple dependent claim 4. Applicant has amended claim 4 and added claim 11 to remove the multiple dependency of claim 4. Applicant has also amended claims 5, 9, and 10 to reflect the change in multiple dependency.

Accordingly, Applicant respectfully requests approval of the amendment and withdrawal the objection to claims 2 and 5-10.

II. Claim Rejected Under 35 U.S.C. §112

The Examiner rejects claims 1, 2, and 10 under 35 U.S.C. 112, second paragraph as being indefinite. In regard to claim 1, Applicant has amended the claim to recite the active and positive elements of the bandpass filter method. Applicant has corrected the typographical error identified by the Examiner by replacing “each of said first and second signals” with “each of said first and second signal branches.” Although not mentioned by the Examiner, Applicant has also corrected a typographical error in claim 1 by replacing “the transposition signals” with “the transposed signals.” Modification to other parts of claim 1 is made to reflect the above changes and to promote clarity.

In regard to claim 2, Applicant has deleted the phrase “in such a manner” from claim 2 and modified the corresponding claim element accordingly.

In regard to claim 10, the Examiner indicates that “the oscillator is actually between the mixer and the oscillator.” Applicant has amended claim 10 by replacing the phrase “via at least one

frequency transposition means” with the phrase “via at least one frequency divider.” This amendment is supported by the Specification on page 7, lines 31-35.

Accordingly, reconsideration and withdrawal of the indefiniteness rejection of claims 1, 2 and 10 are requested.

III. Claims Rejected Under 35 U.S.C. §103(a)

The Examiner rejects claims 1, 2, and 10 under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 4,653,117 issued to Heck (“Heck”), in view of “A High Q 200 MHz Low Power Fully Integrated Bandpass IF Filter” authored by Morche *et al.* and published by *IEEE Custom Integrated Circuits*, May 14, 1998 (“Morche”). Applicant respectfully traverses this rejection.

In order to render a claim obvious, the relied upon references must teach or suggest every limitation of the claim such that the invention as a whole would have been obvious at the time the invention was made to one skilled in the art. Claims 1 and 2 include the element of “a common oscillator.” The Examiner admits that Heck does not disclose this element, but uses Morche to cure the defect. Applicant respectfully submits that the Examiner’s proposed combination of Heck and Morche is improper. Heck discloses a phase lock loop (PLL) circuit using two oscillators (Fig. 1 and col. 4, lines 46-49). One oscillator generates an up-conversion frequency f_{up} , which is a predetermined design parameter. The other oscillator, i.e., the voltage controlled oscillator (VCO), generates a frequency f_{down} to track the frequency of the incoming signal. When the PLL locks, f_{down} is equal to the frequency of the incoming signal (col. 5, lines 1-4). Thus, the two different oscillators taught by Heck allow the PLL to track an incoming signal of a wide range of frequencies. Modifying Heck with Morche to use one common oscillator would fundamentally change the principle of operation of the PLL and render the PLL unable to perform the phase tracking function. See MPEP §2143.01. Therefore, Heck cannot be combined with Morche to teach or suggest the element of “a common oscillator.”

Furthermore, the Examiner admits that neither Heck nor Morche teaches or suggests the element of “a first and a second phase shifters used in opposite manners” as recited in claims 1 and

2. The Examiner merely asserts that using the phase shifters in opposite manners is well known in the art, but fails to explicitly identify a reference for such a teaching. Applicant notes that it is a standard practice in the art to use two phase shifters in the same manner to achieve a wide range of phase control for tracking incoming signals (for example, see the references cited in Heck, col. 4, lines 52-54). The Examiner has not identified and Applicant has been unable to discern anything in the art that provides a motivation to deviate from the standard practice in connection with the device or method of a bandpass filter.

Accordingly, reconsideration and withdrawal of the obviousness rejection of claims 1 and 2 are requested.

In regard to claim 10, Applicant respectfully submits that claim 10 depends from independent claim 2 and incorporates the limitations thereof. Thus, at least for the reasons mentioned above in regard to claim 2, Heck in view of Morche does not teach or suggest each of the elements of claim 10. Accordingly, reconsideration and withdrawal of the obviousness rejection of claim 10 are requested.

IV. Allowable Subject Matter

Applicant note with appreciation the Examiner's indication that claims 3-9 would be allowable if rewritten in independent form to include all of the limitations of the base claims and any intervening claims. However, Applicant respectfully submits that the amendment to claim 2 has obviated the need to rewrite claims 3-9. As claim 2 is in condition for allowance, claims 3-9, which depend from claim 2 and incorporate the limitations thereof, are allowable at least for the reasons mentioned in regard to claim 2. Accordingly, reconsideration and withdrawal of the objection of claims 3-9 are requested.

CONCLUSION

In view of the foregoing, it is believed that all claims now pending, namely claims 1-11 patentably define the subject invention over the prior art of record, and are in condition for allowance and such action is earnestly solicited at the earliest possible date. If the Examiner believes that a telephone conference would be useful in moving the application forward to allowance, the Examiner is encouraged to contact the undersigned at (310) 207 3800.

Respectfully submitted,

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